Fig 1: Head End Component: Professional STB, CI to High speed bi-directional I/F module and PC with SC I/F and High Speed bi-directional I/F

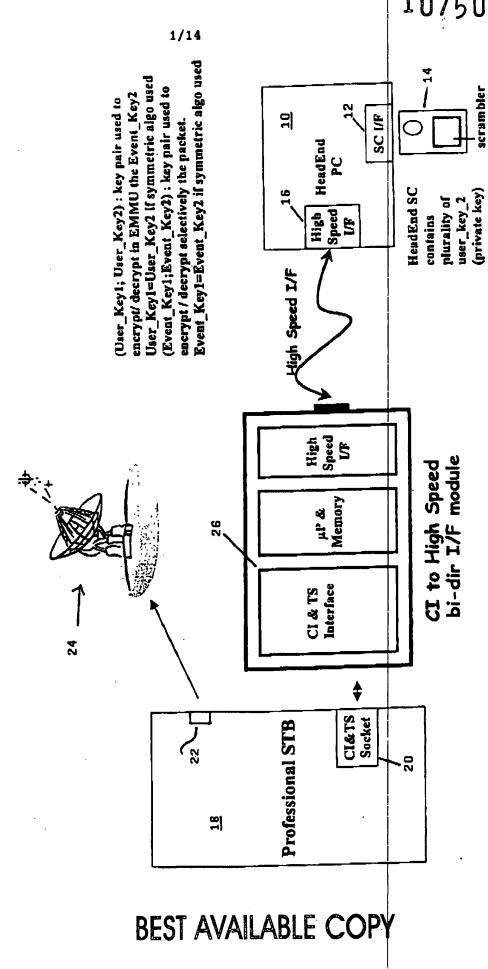


Fig 2: HeadEnd Component: Professional STB, CI module including SCR, encryption by SC

· encryption is performed in the module or in the headend SC selection of packet to be encrypted performed by the µP The process is the same as the previous one except that The Read end component with the PC would be the preferential one as it offers more flexibility. (software filter) or by a hardware filter. HeadEnd SC SC I'R μι & Memory Interface CI & TS CI&TS Socket Professional STB 20 118

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Fig 3: HeadEnd Component: Professional STB, CI module including SCR, encryption by Haedend SC

 selection of packet to be encrypted performed by the µP The process is the same as the previous one except that The Read and component with the PC would be the · encryption is performed in the headend SC preferential one as it offers more flexibility. (software filter) or by a hardware filter. crambler Head End SC SC I/F uP & Memory Interface CI & TS Socket CI&TS **Professional STB** 22 20 삠

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Fig 4: HeadEnd Component: Professional STB, CI module including SCR,

encryption by module

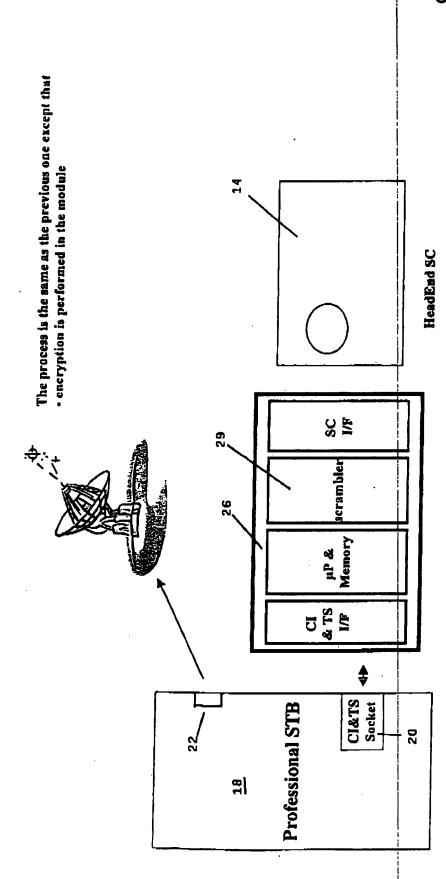


Fig 5: Head End Component: Professional STB including SCR, encryption by

Headend SC

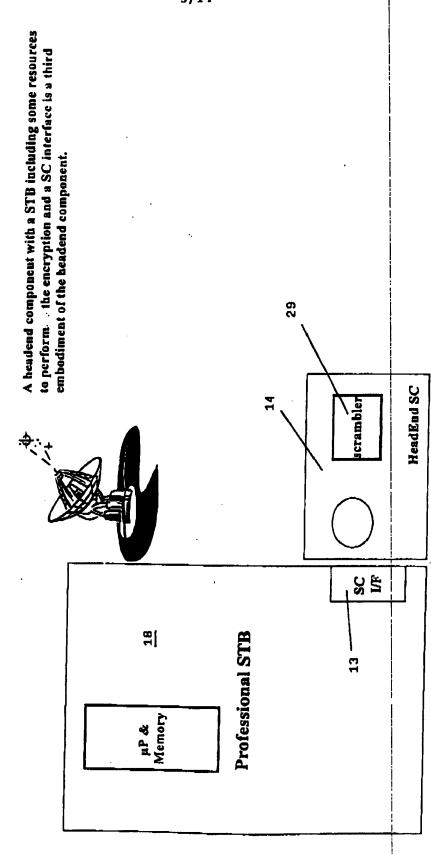
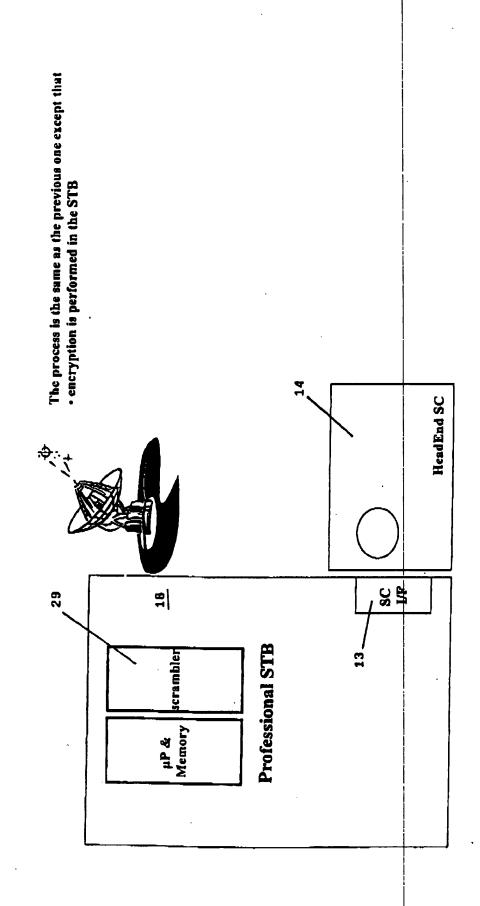
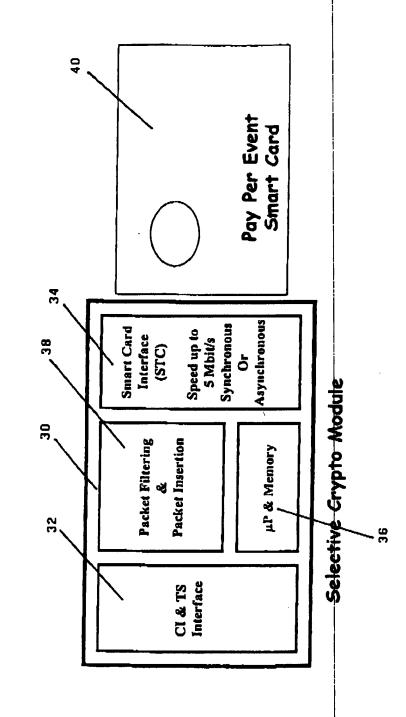


Fig 6: Head End Component: Professional STB including SCR, encryption by STB



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Fig 7: User decoder: STB + Selective Crypto Module + User SC



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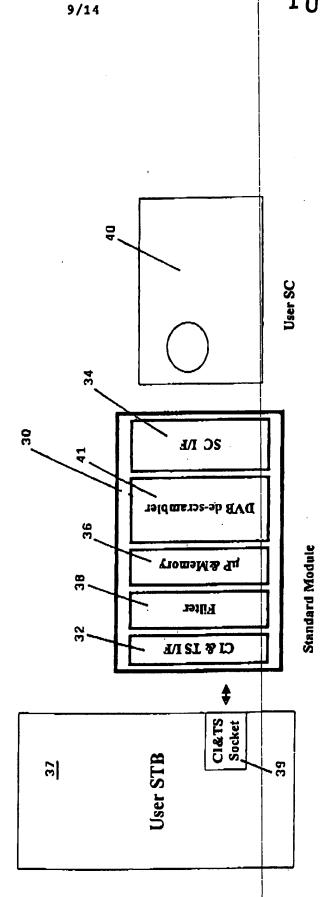
key is stored in the SC · user_key2 in case of event_key2 download · event_key2 in case that the encryption (one event or one by using EMMU Key storage is: period SC) 20 52 μΡ & Memory Key storage Descrambler Private Packet 35 Pay Per Event Smart Card High Speed Synchronous ISO Standard Smart Card Interface Speed up to Interface S Mbivs

Fig 8: User SC

Fig 9: User decoder: User STB, standard DVB CI updated module and user SC

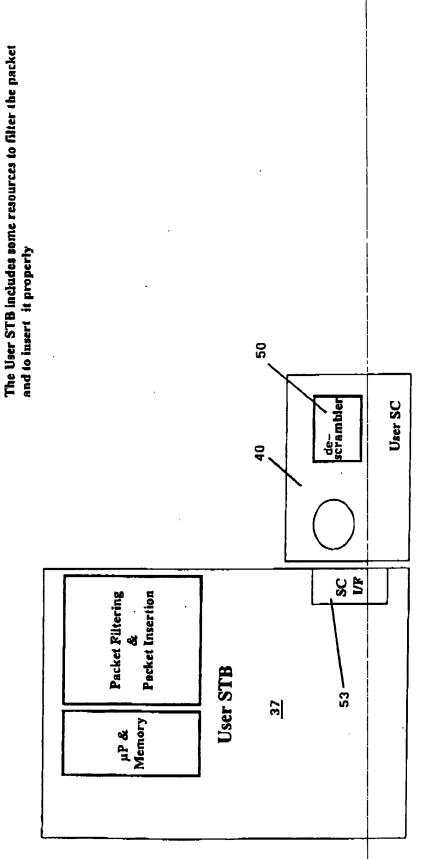
The process is the same as the previous one except that ecryption is performed in a standard module updated to be able to cope with standard DVB scrambling and selective encryption

selective decryption is still performed by the user SC



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Fig 10: User decoder: User STB including SCR



Transport Stream Output: Scrambled or Corrupted

Clear packet

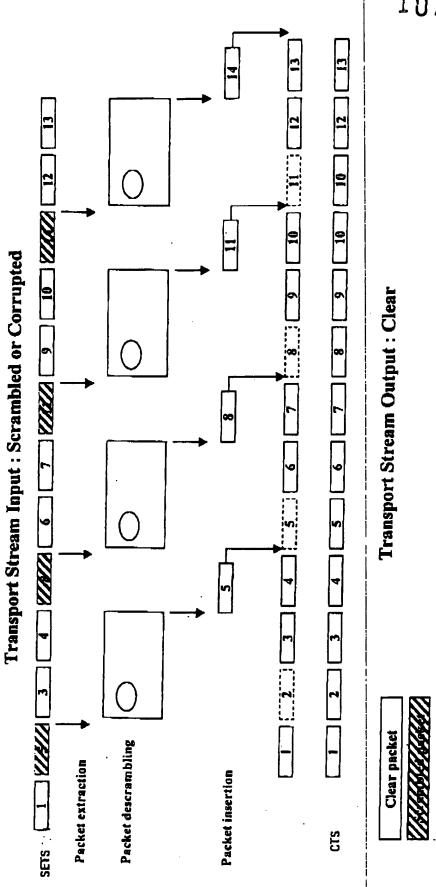
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Transport Stream Input: Clear 3 18888 .1 Packet buffering /Insertion ÷ Packet scrambling Packet extraction SETS BTS

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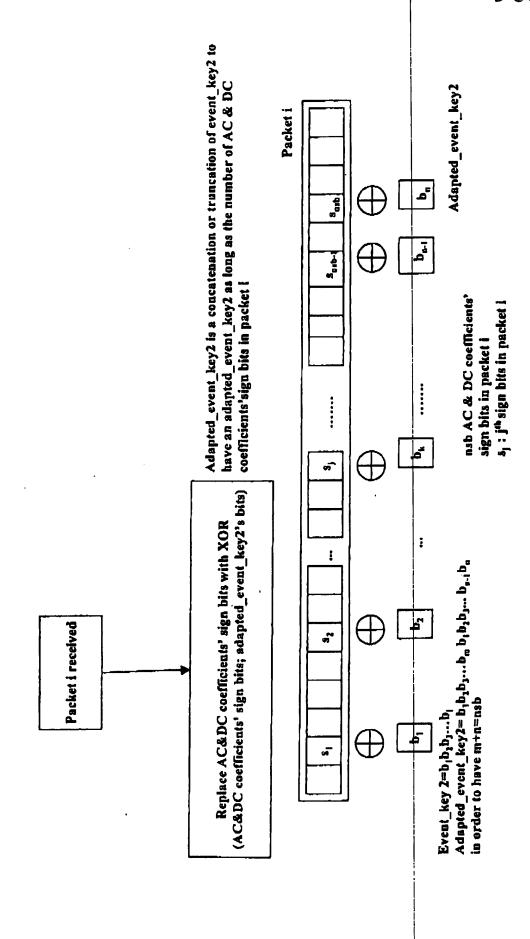
5.09/21

Fig 12

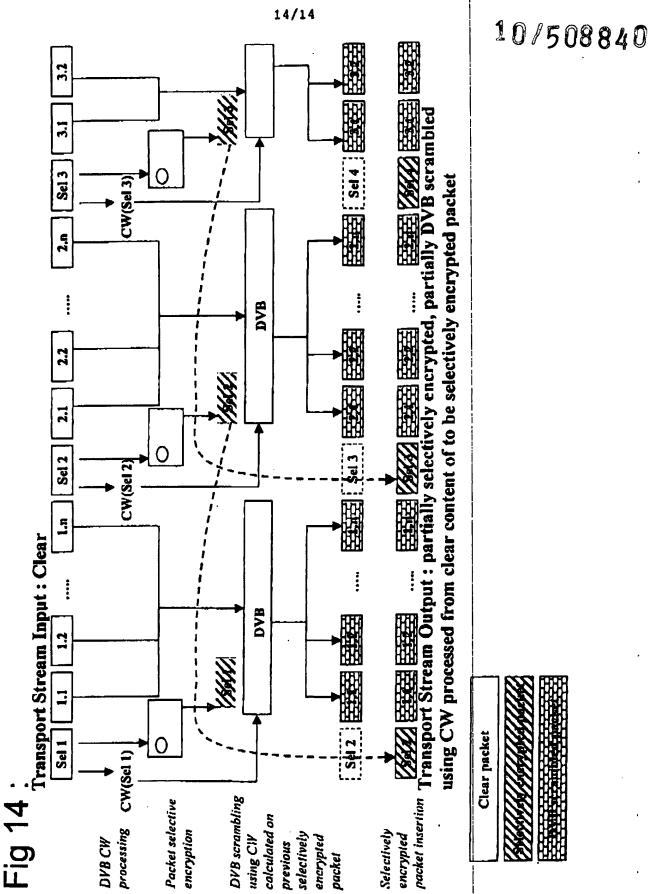


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Fig 13: AC & DC coefficients' sign bits encryption



DVB CW



previous

packet

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